Partner Reported Opportunities (PROs)
For Reducing Methane Emissions

Eliminate Unnecessary Equipment and/or Systems

Compressors/Engines ☐
Dehydrators ☐
Pipelines ☐
Pneumatics/Controls ☐
Tanks ☐
Valves ☐
Wells ☐
Other ■

Applicable sector(s):

■ Production ■ Processing ■ Transmission and Distribution

Partners reporting this PRO: Marathon Oil Company

Other related PROs: Consolidate Crude Oil Production and Water Storage Tanks

Technology/Practice Overview

Description

Production facilities are designed to accommodate the maximum expected production rate. As fields mature, pressure decline causes production to decrease, resulting in excess processing capacity, inefficient operation, and unnecessary onsite emissions.

One partner reports consolidating facilities to eliminate the operation of unnecessary equipment, such as dehydration units and compressors. Equipment consolidation results in increased efficiency, reduced methane emissions, and lower operation and maintenance costs.

Methane Savings

2000 Mcf/yr

Costs

Capital Costs (including installation)
■ < $1,000 ☐ $1,000 - $10,000 ☐ $ > $10,000

Operating and Maintenance Costs (Annual)
■ < $100 ☐ $100-$1,000 ☐ > $1,000

Payback (Years)

■ 0-1 ☐ 1-3 ☐ 3-10 ☐ > 10

Principal Benefits

Reducing methane emissions was:

☐ **A primary justification for the project** ■ **An associated benefit of the project**

Operating Requirements

Consolidating facilities will not affect operating requirements.

Applicability

This practice applies to facilities which are operating well below design rates.

Methane Emission Reductions

Pneumatic controllers vent approximately the same volume of gas at all process rates. A rule of thumb for evaluating gas emissions from process controllers is one cubic foot per minute for each control loop. Production dehydrators have, at a minimum, four control loops. One partner reported methane savings of 7,940 Mcf/yr by eliminating 31 dehydrators.

Economic Analysis

Basis for Costs and Savings

Methane emission savings of 2000 Mcf/yr are associated with elimination of four gas pneumatic control loops by consolidating two 50 percent utilized dehydrators into one.

Discussion

This practice can have a quick payback. Primary benefits are increased operational efficiency and reduced operation and maintenance costs. Associated benefits are the gas savings from the elimination of unnecessary equipment and improvement in processing efficiency. Minimal capital cost is required to connect facilities.